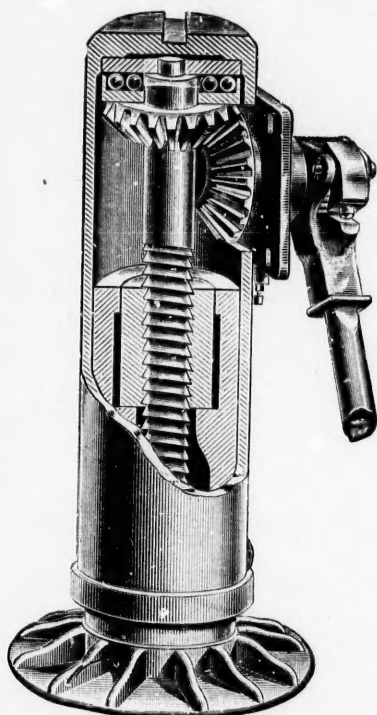


THE NORTON ❖



Sectional View of Bail-bearing Jack.

IMPROVED
 . . BALL-BEARING . .
 . . RATCHET SCREW .

JACKS ❖

RACK AND GEAR . . .
 CAR JACKS
 ——— AND ———
 "SURE-DROP"
 TRACK JACK.

1895.

All previous Lists
 cancelled.

MANUFACTURED BY A. O. NORTON —
 97 OLIVER ST., BOSTON, MASS., U. S. A.
 ——— AND ———
 COATICOOK, P. Q., CANADA.

BIBLIOTHEQUE,
ARCHIVES PUBLIQUES
OTTAWA, ONT.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P.Q., Canada.

WE MANUFACTURE

JACKS

FOR ALL KINDS OF LIFTING.

- - - Our Prices are Right. - - -

WE make the most **complete line**, and our Jacks are better adapted to **all** branches of railway service, from track to shops, and for **carrying** on **locomotives** and **tool cars**, than any manufactured in the United States.

Jacks for special work, made to order at short notice, and at reasonable prices. **All the Jacks we illustrate** are made in **our own shops** and are fully **guaranteed**.

Have you ever figured the **cost of maintenance** and **repairs** on **Hydraulic Jacks** and loss of their **use** while in the **hospital**? If not, the figures will astonish you.

This trouble and **expense** can be **avoided** by **using** the **Norton Ball-bearing Ratchet Screw Jacks**.

We make **one** claim only—The Norton Jacks are the **best in the world**.

MANUFACTURED BY

• A. O. NORTON, •

97 Oliver Street, Boston, Mass., U. S. A.,

AND

Coaticook, P. Q., Canada.

Prices subject to change
without notice.

1895. Cancel all previous lists.

The Norton Ball-bearing Ratchet Screw Jacks.

THE Norton Ball-bearing Ratchet Screw Jacks are constructed on an entirely different principle from any other Jacks in the world; as will be seen by the cuts, they have a stationary standard and sliding sleeve fitting over the same. The standard has a removable nut (usually Phosphor Bronze) fitted within it and resting on a shoulder, in which the screw turns (the standards are *hollow*, and can be *filled* with *oil*, thus keeping the screw constantly lubricated). To the upper end of the screw is fastened a steel gear; a hardened tool steel plate encircles the *hub*, and rests on the body of said gear, on which are placed circular trains of hardened steel balls, held in place by rings between the rows (as shown in cut). In the top, or head of the sliding sleeve (which is bored to fit standard), is placed another hardened tool steel plate with a hole in the centre, through which the end of the screw projects.

When the Jack is assembled the sleeve slides down over the screw and standard, the bearing plate in the head resting on the balls on the plate on the gear, so that the whole weight is carried by the balls (between the steel plates), which act as a thrust-bearing between the screw and head of the sleeve, reducing the friction and increasing the lifting power of the Jack.

The sleeve which revolves on the standard, allowing the lever to be used from either side, carries the load, and is raised or lowered by the screw, which is turned by means of a gear on the ratchet shaft, engaging with the gear on the screw, and operated by a reversible ratchet and lever having the *up* and *down*, or "*pump handle*" motion. This is the only screw Jack made having this motion of the lever. The sleeve at the lower end is provided with a "*stop dog*" or pawl, which prevents the screw from being run out of the nut.

The advantage of this sliding sleeve cannot be *over* estimated. It takes all the *side strain* off the screw, preventing it from *bending*, and also protecting all the working parts from *sand*, *coal-dirt* and *water*, making it the *only Jack suitable* to carry on *locomotives*.

All of the Norton Railroad Jacks are steel and malleable iron throughout.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P.Q., Canada.

WHY WE CLAIM THE NORTON JACKS ARE SUPERIOR TO ALL OTHERS, Especially for Railway Service.

Because of their **Simplicity, Durability** and **Cheapness**. They are the **Lightest** Ratchet Jacks in the world of same capacity.

Cost **Less** for maintenance, are **always Safe** and **Reliable**, even in the hands of careless and unskilled workmen, as the screw holds the load without blocking, and cannot **drop** or **run down**. This is a very important feature in a Railway Jack and should not be overlooked.

The screws are **Self-lubricating**. Ball-bearings **never wear**, and seldom need oiling or attention.

They can be operated by ordinary workmen without previous instructions.

They can be left standing in **Tool Car** or **Shop**, or carried on **Locomotive** for **Months** at a time **without any attention whatever**, and be found **Ready** for **Service** when needed, as there is no **Alcohol, Packing** or **Valves** to **keep in order**.

All Parts are **Interchangeable**, and can be replaced in a few minutes by ordinary workmen at trifling cost without returning to Factory.

The **Norton Journal Jacks** **Weigh** about **one-third** and **Cost** about **one-fourth** as much as **Hydraulics** of same capacity, for same purpose.

All of our Screw Jacks can be used in **any position**, flat for pushing or bottom up, if necessary.

The cost for maintenance and repairs on all Jacks in use for past **four years** averages **less** than **1 per cent. per annum**.

We will **guarantee** to keep our Jacks in perfect working order for **five years** for **one-half** what it costs for **Alcohol alone**, for **Hydraulics** of **same capacity** and **service**.

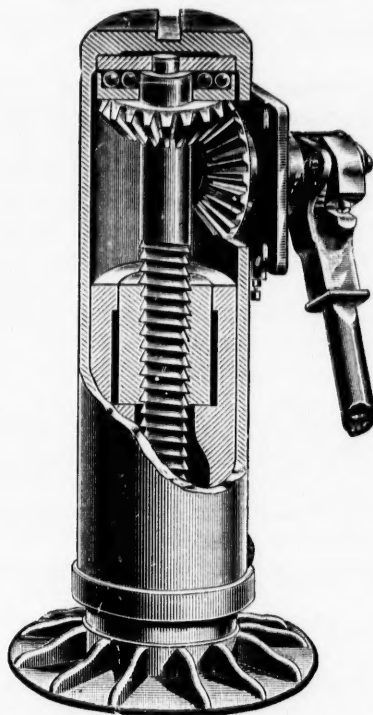
MANUFACTURED BY **A. O. NORTON**_____

OFFICE AND
FACTORY: **97 Oliver Street, Boston, Mass.**

We do not publish testimonials, but having hundreds of such, we will be pleased to furnish *at any time* the *highest references*, both from railroads, and from users of our Jacks in all kinds of service.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

NORTON BALL-BEARING RATCHET SCREW JACKS.



Sectional View of Norton's Ball-Bearing Jack.
20 Tons, Style A.—Weight, 90 lbs.

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for A. O. Norton, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7283 Ball-Bearing Railroad 26 in. Jack, **Style A**, 50,400 pounds were raised by operating the lever. The Jack was then removed from the testing machine, examined, and found in good working condition. Returned to the testing machine and loaded, increasing the pressure with the machine to 240,000 pounds total. Nut disabled. Ball-bearing in good working condition.

Correct.

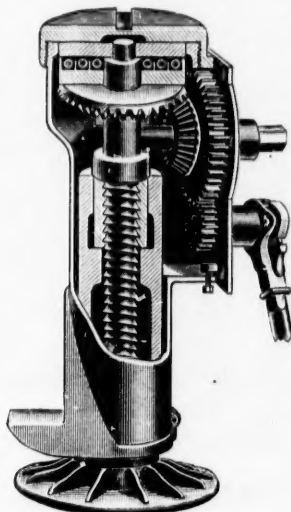
(Signed) J. E. HOWARD.

(Signed) A. L. VARNEY,

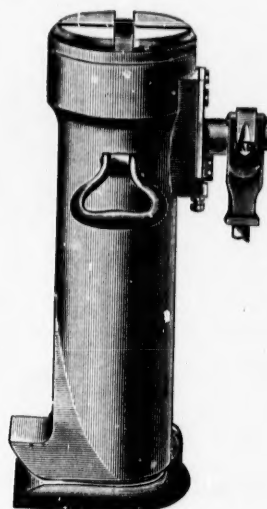
Capt. Ordnance Dept. U. S. A., Commanding.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

BALL-BEARING COMPOUND JACKS, 40 to 70 TONS.



70-Tons Bridge Jack.



40-Tons Bridge Jack.

BRIDGE JACKS, 70, 60, 40 Tons.

Height	Rise	Diameter of Base	Diameter of Head	Weight	Capacity	List Price	Discount
26 in.	12 in.	14 in.	10½ in.	315 lbs.	70 tons.	\$200.00	
26 in.	12 in.	14 in.	10½ in.	250 lbs.	60 tons.	175.00	
21½ in.	10 in.	8x6 in.	8 in.	180 lbs.	40 tons.	140.00	

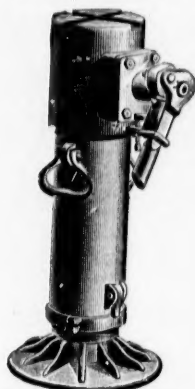
These Jacks are designed for Extra Heavy Bridge and other work, and are made with great care from the best material, and have given excellent satisfaction.

When raising light load (30 to 50 tons) use ratchet on *upper* shaft, which gives *more speed*.

When full power of Jack is required, use ratchet on *lower shaft*.

A. O. Norton, Boston, Mass., U. S. A., and Costicook, P. Q., Canada.

STYLE C, BALL-BEARING JACKS. 35 TONS.



Style C, 26 inch.



Style C, 31 inch.

**NOTE THE REDUCED LIST PRICE OF THIS JACK.
STYLE C, BALL-BEARING JACKS. 35 TONS.**

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Hook Extra	Discount
C	26 in.	14 in.	12 in.	165 lbs.	35 tons.	\$125.00	\$8.00	
C	31 in.	18 in.	12 in.	190 lbs.	35 tons.	135.00	8.00	

This Jack is designed for Heavy Locomotive and Wrecking Car Service, Pulling Well Pipes, and all other heavy work.

TESTED AS FOLLOWS :

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., April 30, 1891, for A. O. Norton, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jack No. 7431, Ball-bearing Railroad 35 Tons Screw Jack, **Style C.** 70,000 pounds were raised by operating the lever. Jack was then removed from the testing machine, opened and examined and found in good working order. Again placed in the testing machine and loaded with 100,000 pounds. Load released after about five minutes, the Jack then removed from the testing machine, opened and examined and found in good working order as before.

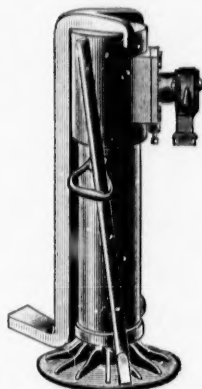
Correct. (Signed) J. E. HOWARD.

(Signed) A. L. VARNEY,
Capt. Ordnance Dept. U. S. A., Commanding.

A. O. Norton, Boston, Mass., U. S. A., and Coatlicook, P. Q., Canada.

BALL-BEARING JACK, STYLE N. A., 25 TONS.

WITH HOOK FOR GROUND LIFT.



Style N. A. Ball-Bearing Jack, 25 Tons.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Extra Hook	Discount
N. A.	26 in.	14 in.	10 in.	105 lbs.	25 tons	\$90.00	\$6.00	

If you carry a Jack on a Locomotive, why not carry one that will **Keep in Order**, and do the work *whenever required*?

The construction of the Norton Jack is such that it can be carried on Locomotives for months at a time, exposed to the coal-dirt and action of the weather, and be found ready for service when needed.

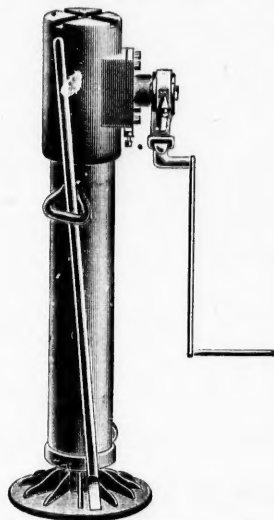
WE MAKE A SPECIALTY of EQUIPPING LOCOMOTIVES

with any special height or capacity required, at short notice.

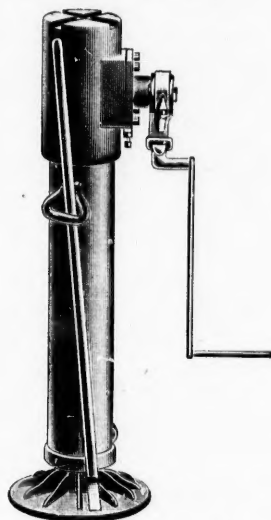
**Estimates Furnished and Contracts Taken for Equipping
Entire Lines.**

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

BALL-BEARING JACKS, STYLES H and Z.



Style H, 20 and 25 Tons.



Style Z, 15 Tons.

STYLE H, 20 and 25 TONS.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Hook Extra	Discount
H	33 in.	20 in.	12 in.	135 lbs.	20 tons	\$90.00	\$6.00	
H	33 in.	20 in.	12 in.	135 lbs.	25 tons	95.00	6.00	

Style **Z** is the same as **H**, except it has large gear on ratchet shaft, giving it **Double Speed**.

STYLE Z, 15 TONS.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Extra Hook	Discount
Z	33 in.	20 in.	12 in.	135 lbs.	15 tons	\$75.00	\$6.00	

These Jacks are intended for **car** work, where long lift is needed, and can be used with **crank** on **empty cars**, or light load, which is much quicker than pumping up with lever. Another saving of time is, the car can be raised and **left standing** on the **Jacks without blocking**, while trucks are changed.

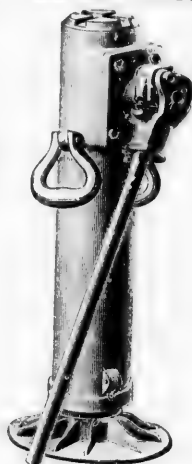
A. O. Norton, Boston, Mass., U. S. A., and Coatcook, P. Q., Canada.

BALL-BEARING

STYLE A,

JACK,

20 TONS.



Any of these Jacks will be furnished with **Square Base** at same price.

Style A, 20 Tons.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Hook Extra	Discount
A	26 in.	14 in.	10 in.	90 lbs.	20 tons	\$80.00	\$6.00	

Sectional view and report of Government test of this Jack given on page 4.

Style B is the same as above, only shorter.

Style B, 20 Tons.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Hook Extra	Discount
B	22 in.	12 in.	10 in.	80 lbs.	20 tons	\$70.00	\$6.00	

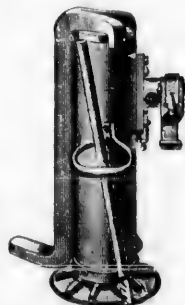
BALL-BEARING JACK, STYLE R,

20 TONS.

Designed for Elevated Railroad Service.

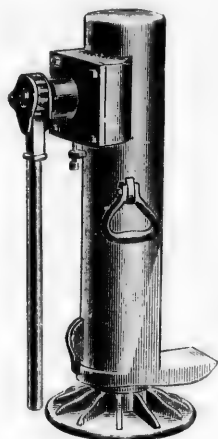
Style R, 20 Tons.

Style	Height	Rise	Diam. of Base	Wght.	Capacity	List Price	Hook Extra
R	20 in.	9 in.	12 in.	80 lbs.	20 tons	\$75.00	\$5.00



A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

DOUBLE-SPEED BALL-BEARING JACK, STYLE F.



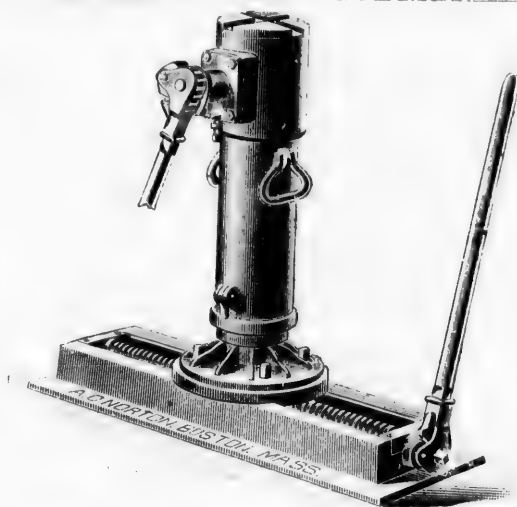
15 Tons, with Ground L'ft.

STYLE F. BALL-BEARING JACK.

Style	Height	Rise	Diameter of Base	Weight	Capacity	List Price	Discount
F	24 in.	10 in.	10 in.	115 lbs.	15 tons	\$60.00	

This Jack has large gear on ratchet shaft, giving it *double speed*. It is malleable iron and steel throughout, *extra strong*, and is especially adapted to *Electric plants*, power houses on Electric Railways, and for handling heavy machinery, stones, etc.

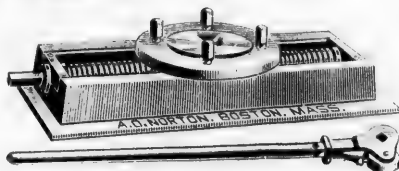
A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.



**BALL-BEARING
TRAVERSING
JACK "C,"
35 TONS,
20 in.
TRAVERSE.**

**LIST PRICE OF STEEL
BASE TO TRAVERSE.**

Traverse	Weight	List Price
20 inches.	124 pounds	\$40.00
15 "	60 "	35.00



15 in. Traversing Base. Height 4 in.

BALL-BEARING TRAVERSE JACKS, COMPLETE.

Style of Jack	Capacity	Height over all	Rise	Traverse	List Price
F	15 tons	28 inches	10 inches	20 inches	\$100.00
A	20 "	30 "	14 "	20 "	120.00
N. A.	25 "	30 "	14 "	20 "	130.00
C, 26 in.	35 "	30 "	14 "	20 "	165.00
B. J.	60 "	30 "	12 "	20 "	215.00
R	20 "	24 "	9 "	20 "	115.00

NON-BALL-BEARING TRAVERSE JACKS, COMPLETE.

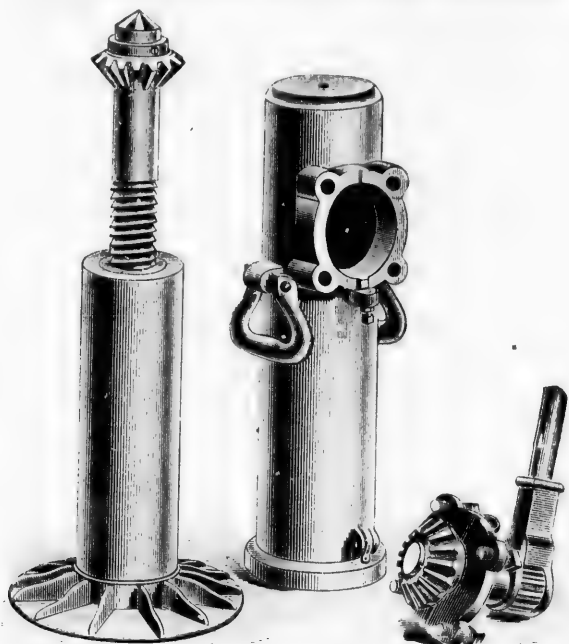
Style of Jack	Capacity	Height over all	Traverse	List Price
K	15 tons	30 inches	15 inches	\$85.00
N. J.	10 "	24 "	15 "	59.00
G	15 "	26 "	15 "	60.00
D	10 "	16 "	15 "	55.00

These Jacks can be taken off the bases and used *separately if desired*. It is the most Complete Tool Car Outfit in the market. Jacks are *Self-Lubricating* and *require no attention* whatever when left in car or shop for months at a time, winter or summer.

Any Size, Height or Capacity fitted to either base.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

NON-BALL-BEARING JACKS.



This Cut shows construction of the Norton Jack without Ball-Bearings.

Our Non-Ball-Bearing Jacks are made on the same principle as the Ball-Bearings, except the load is raised by the end of the screw, which rests on a hardened steel *step*, or *bushing*, in the head of the sliding sleeve. Up to 15 tons they are as good as the Ball-Bearing, except they need a little more attention in *oiling*. *All are fully guaranteed.*

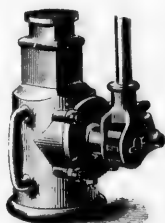
DIRECTIONS FOR NORTON JACK WITHOUT BALL-BEARING.

Keep working parts well oiled. Take particular pains with the top hole, as all of the weight is borne on the end of the screw. In oiling the top hole, first fill the hole with oil. Then raise the shell a little to allow the oil to settle well on end of Screw. Do not neglect this, and use plenty of oil. Also see that the screw is kept well oiled. Keep gears well in mesh. To adjust gears—Loosen four nuts on cap-bolts and check nut on set screw at bottom of cap. Turn set screw till gears are as close in meshes as they will run freely. Then tighten check nut on set screw to hold gears in place, and tighten the nuts on cap-bolts. To take Jack apart, take the nuts off holding cap, remove the ratchet and gear, then lift the shell up, pressing bottom dog to let it pass groove in top of standard.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

RAILWAY JACKS WITHOUT BALL-BEARING. CAR INSPECTOR'S OR JOURNAL JACKS.

These Jacks will save time enough in a month to pay for themselves.
No railway can afford to be without them.



Style D, 10 Tons.



Style P, 8 Tons.



Style Q, 8 Tons.

Style	Height	Rise	Weight	Capacity	List Price	Discount
D	11 in.	6 in.	40 lbs.	10 tons	\$20.00	
P	10 in.	5 in.	21 lbs.	8 tons	18.00	
Q	7 in.	3 in.	17 lbs.	8 tons	18.00	

TESTED AS FOLLOWS:

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical Tests made with the U. S. Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for A. O. Norton, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7285, Little Giant 11 in. Jack, **Style D**. 21,800 pounds raised by operating the lever, Jack in good working order after the test.

Correct. (Signed) J. E. HOWARD.

(Signed) A. L. VARNEY,
Capt. Ordnance Dept., U. S. A.

This Jack is intended for carrying on locomotives, for putting in brasses, and yard work.

It can be placed almost instantly and works *very rapidly*. The screw being protected, it never gets *rusty* and useless from exposure on the engine, as is so often the case with common Bottle Jacks, **but is always ready for use**.

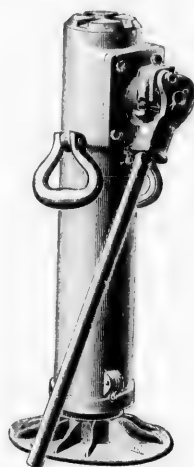
Brasses can be changed *in half the time*, and much easier, than with the old style Jack.

It would be economy to supply every car inspector with one.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

RAILWAY JACKS, 10 and 15 TONS, 26 INCH.

STYLE K, NON-BALL-BEARING.



15-Tons Railway Jack.



10-Tons Railway Jack.

STYLE K. NON-BALL-BEARING JACKS.

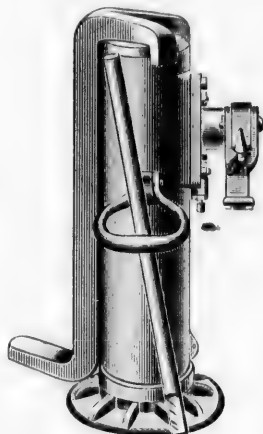
Style	Height	Rise	Weight	Capacity	Price	Hook Extra	Discount
K	26 in.	14 in.	90 lbs.	15 tons	\$50.00	\$6.00	
K	26 in.	14 in.	90 lbs.	10 tons	40.00	6.00	

This Jack is made of malleable iron and steel throughout, with phosphor bronze nut, same as all our ball-bearing Railway Jacks.

Instead of ball bearings, the end of screw is *conical shape*, working on a removable, hardened steel plate, fitted in the head of sliding sleeve. In case of wear, this plate can be *replaced* at slight expense.

Where a very serviceable and *low-priced Jack*, from 10 to 15 tons capacity, is required, this pattern *cannot be excelled*; fully guaranteed.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.



15-TONS CARPENTERS' AND BUILDERS' JACK.

STEEL SCREW, GEARS
AND RATCHETS.

Cast Iron Shell and Standard.

THE CHEAPEST RATCHET JACK

IN THE WORLD.

CAPACITY GUARANTEED.

Cut of Style G, with Hook.

TEST OF STYLE G

(COPY.)

ORDNANCE DEPARTMENT, U. S. A.

Report of Mechanical tests made with the United States Testing Machine, capacity 800,000 pounds, at Watertown Arsenal, Mass., Feb. 10, 1891, for A. O. Norton, Boston, Mass.

TESTS BY COMPRESSION.

Lifting Jacks manufactured by A. O. Norton. No. 7286, Carpenters' and Builders' Jack, **Style G**. 31,800 pounds raised with the lever; 50,000 pounds load applied with the testing machine. Jack in good working condition after test.

Correct. (Signed) J. E. HOWARD.

(Signed) A. L. VARNEY,
Capt. Ordnance Dept., U. S. A., Commanding.

These Jacks are made on the same principle as the Railway Jacks, and are *unsurpassed* for all kinds of work.

They are especially adapted in price and quality to the wants of house movers and others using a large number of Jacks for ordinary work, and in all respects suitable for general service.

For raising buildings where the sills are close to the ground, the hook will save all the *digging*, consequently the Jacks can be placed and the building raised with much less labor and expense than with the common Jacks.

PRICE LIST OF CARPENTERS' AND BUILDERS' JACKS.

Style	Height	Raises	Base	Weight	Capacity	List Price	Hook Extra	Discount
G	22 in.	12 in.	10 in.	80 lbs.	15 tons.	\$25.00	\$5.00	

THE NORTON "SURE DROP" TRACK JACK.

DESCRIPTION.

The body of the Jack is of malleable iron, made in two pieces, the sides and bearings of each part being accurately milled, joined together and firmly riveted *above the foot*, which is in *one piece*, making a **strong, solid base**. The lifting bar is made from best quality **forged steel, milled to fit body** of Jack, with teeth cut on **two sides**, one for **lifting** and one for **holding** pawl. The teeth in lifting side of bar are cut *square* on top, making it **impossible** for pawl to become **disengaged** while lifting.

The mechanism for lifting consists of a **cam** on end of lever socket 3 (see cut 3), working in strap which carries lifting pawl 6. Strap and cam are **bored and turned** to fit, and **hardened**. The cam turns on a $\frac{3}{4}$ inch **hardened tool steel pin**, which is **keyed to frame** so it **cannot turn**. The cam has sufficient throw to raise the bar $\frac{1}{2}$ inch, 1 inch, or $1\frac{1}{2}$ inches, as may be desired, **with one stroke of the lever**.

The teeth on **holding side** of bar are cut in **line with an arc of a circle** struck from centre of pin in *holding pawl* 4 (see cut). Hinged to holding pawl 4, is *tripping cam* 5.

To **raise, turn tripping cam to left** (see fig. 1).

To **trip** the jack it is only necessary to **turn tripping cam into position** as shown in cut 2, **raise the lever and turn lifting pawl back**. Pressing **down** on the lever brings the **end of lever socket** in contact with **tripping cam** 5, forming a **wedge**, which in combination with the **shape of the teeth** on **lifting bar**, before mentioned, is so powerful that a man can **easily and instantly trip with one hand, any load that can be raised with the Jack, even with two or three men on the lever**.

A. O. Norton, Boston, Mass., U. S. A., and Coatlicook, P. Q., Canada.

THE NORTON "SURE DROP" TRACK JACK.

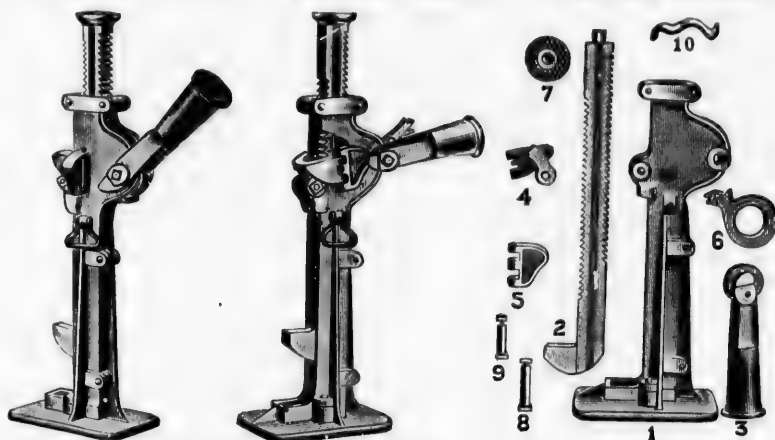


Fig. 1. Raising. Fig. 2. Lowering.

Fig. 3. Parts.

Height	Rise of Bar	Size of (Steel) Bar	Weight of Jack.	Capacity	List Price
28 in.	15 in.	2 x 1½ in.	78 lbs.	10 tons.	\$20.00

CLAIMS.

We claim that the "Norton" is the **most perfectly made** track Jack in the market. Our lifting device is the **easiest, quickest working** and **most powerful ever applied to any track Jack**. Our tripping device is **perfect**. It is **not necessary to lift** the load **before** it can be **dropped, as with other Jacks**. There are **less parts to wear** and keep in repair, and each part can be duplicated.

The wear, if any, being on the cam (which is protected from the sand and grit by the strap) is distributed over so much surface, that it **cannot interfere with the working of the Jack**, while the **perfect fitting** of the parts is a great improvement over other Jacks which are nearly all made from castings **put together in the rough**, with the lifting pawls hinged on small pins.

In a word, we claim the "Norton" Jacks are the **nearest perfection** of any tools of the kind **ever produced**.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

NORTON'S NEW STREET RAILWAY JACK.

ALWAYS SAFE, READY AND EFFECTIVE.



Cut of Norton's
New Street Railway Jack.



10 Tons Jack.
Square Front Base.

NORTON'S NEW STREET RAILWAY JACK.

Style	Height Over All	Height of Foot from Ground	Rise	Diameter of Base	Weight	Capacity	List Price	Discount
N. J.	20 in.	3 inches	10 in.	8 in.	60 lbs.	10 tons	\$24.00	
N. J. }								
Sq. }	20 in.	3 inches	10 in.	8 in.	60 lbs.	10 tons	24.00	
Front }								
Base }								

This Jack is designed for Electric and Street Railway Service, and has been adopted by the West End Street Railway Co., of Boston, for use on their lines.

It is equally well adapted for Carpenters and Builders, Boiler Makers, Truckmen, or any other work that can be done with Jacks.

These Jacks are made of malleable iron and steel, and have hardened tool steel bearing for end of screw.

CAPACITY, MATERIAL AND WORKMANSHIP GUARANTEED.

Any Jack that may become broken (with fair usage) within one year, will be **Repaired Free of Charge**, or duplicate part furnished if too far away to return Jack.

A. O. Norton, Boston, Mass., U. S. A., and Coaticook, P. Q., Canada.

NORTON'S COMPOUND GEARED RACK JACK.

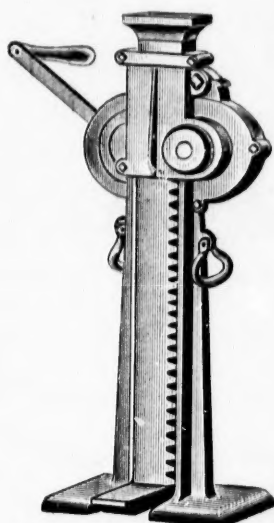


Fig. 1. Compound Geared Car Jack. Style S.

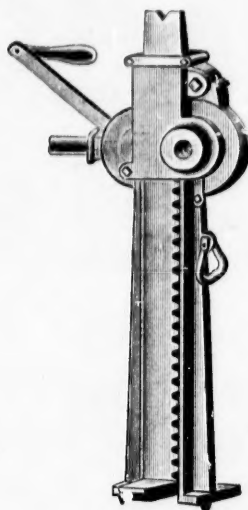


Fig. 2. Double Geared Stone Jack. Style T.

CAR AND STONE JACKS.

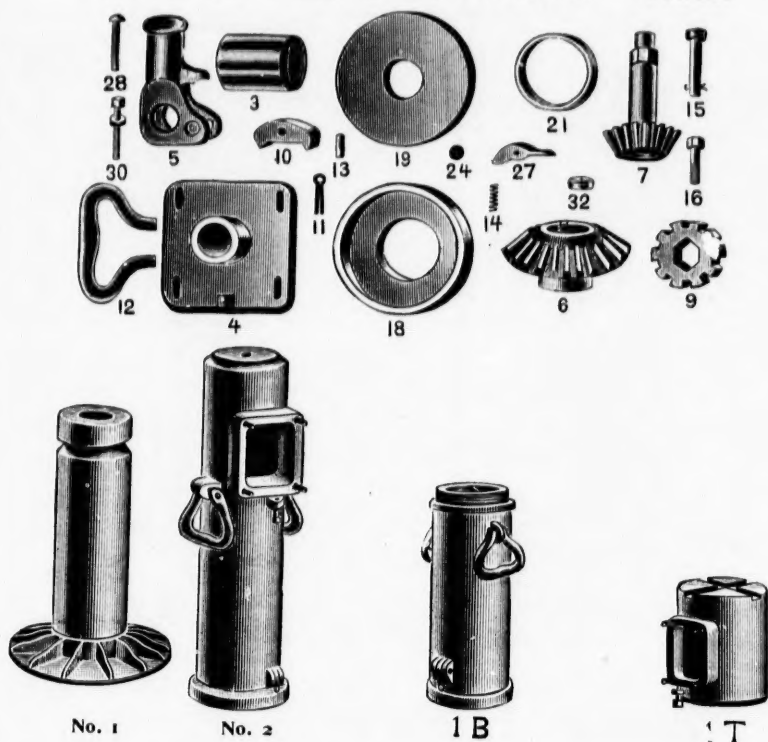
Style	Gearing	Height	Rise of Bar	Size of Steel Bar	Weight	Capacity	List Price
S	Compound	28 in.	18 in.	2½ x 1½	130 lbs.	15 tons	\$40.00
S	Double	25 in.	15 in.	2 x 1½	80 lbs.	8 tons	30.00
T	Compound	28 in.	18 in.	2½ x 1½	130 lbs.	15 tons	45.00
T	Double	25 in.	15 in.	2 x 1½	80 lbs.	8 tons	35.00

These Jacks are designed for use in car repair shops, street railway service, mills, stone yards and quarries, and for truckmen and machinery movers. They are built for speed, and with the crank, light loads can be raised or lowered very rapidly, while heavy weights are easily raised with the ratchet and lever.

In addition to the **crank**, we send **free** with each Jack, a tool steel **pinch bar**, which will be found very convenient.

Both the **Car** and **Stone** Jacks are made compound or double geared. Fig. 1 represents the **compound geared car Jack, broad base**. Fig. 2 represents the **double geared stone Jack**. All have forged steel lifting bar, cut teeth and steel gears.

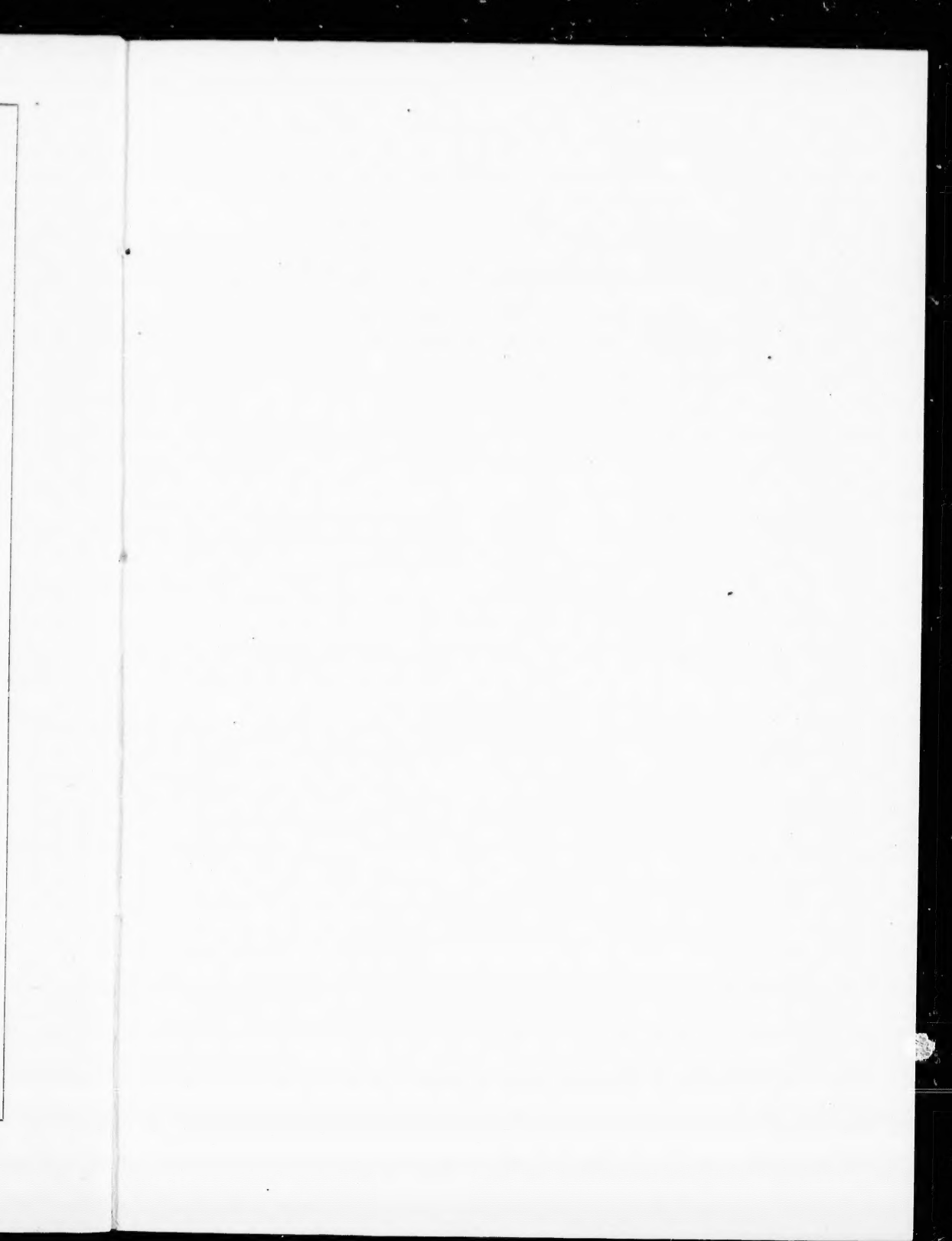
REPAIRS FOR THE NORTON JACK.



LIST NUMBERS FOR PARTS FOR REPAIRS.

No. 1	Shell.	No. 6	Gear with Hub.
No. 2	Standard.	No. 7	Gear with Shaft.
No. 1 B.	Bottom Part of Shell.	No. 9	Ratchet.
No. 1 T.	Top " " "	No. 10	Pawl.
No. 3	Nut.	No. 11	Cotter.
No. 4	Cap.	No. 12	Handle.
No. 5	Leather Socket.	No. 13	Reversing Pin.
No. 15	Pawl Bolt.	No. 14	Spring.
No. 16	Cap Stud and Nut.	No. 18	Bottom Bearing Plate.
No. 21	Inside Ring.	No. 19	Top " "
No. 27	Stop Dog.	No. 30	Adjusting Screw.
No. 28	Stop Dog Bolt.	No. 24	Steel Ball.
No. 32	Steel Bushings used in Non-Ball-Bearing Jacks.		

The above cuts refer to **All Patterns.** In ordering repairs, give the **Style, Letter** and Capacity of the Jack, with the **Number** and **Name** of the part required. Prices of repairs vary according to the size of the Jack.

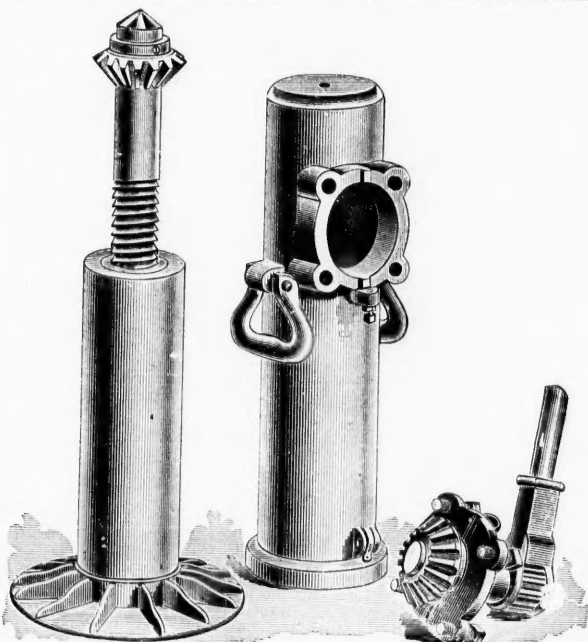




HIGHEST PRIZE GRANTED IN ITS CLASS

... BY THE ...

MASSACHUSETTS MECHANICS' CHARITABLE ASSOCIATION,
... 1890 — 1892. ...



This Cut shows construction of the Norton Jacks
without Ball-bearings.

- - ALSO - -

HIGHEST AWARD at the WORLD'S COLUMBIAN EXPOSITION,
... HELD AT CHICAGO IN 1893. ...